

## ABSTRACT

Systems and methods are disclosed for assisting a user in guiding a medical instrument to a subsurface target site in a patient by indicating a spatial feature of a patient target site on an intraoperative image (e.g., endoscopic image), determining 3-D 5 coordinates of the patient target site spatial feature in a reference coordinate system using the spatial feature of the target site indicated on the intraoperative image (e.g., ultrasound image, determining a position of the instrument in the reference coordinate system, projecting onto a display device a view field from a predetermined position relative to the instrument in the reference coordinate system, and projecting onto the view field an 10 indicia of the spatial feature of the target site corresponding to the predetermined position.